

REMARKS

Applicant notes with appreciation the detail and thoroughness embodied in Paper No. 20070330 and the opportunity to distinguish the pending claims over the prior art of record. This amendment is submitted to be fully responsive thereto. Claims 1-8, 11, 14-28, and 32-36 are currently pending in this application.

Currently, claims 1-6, 8, 11, and 13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686). Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Ford (US Patent 6,756,896). Claims 14 and 16 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Wilkinson (US Patent 5,892,447). Claims 14 and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Brinkmeyer et al. (US Patent 5,940,007). Claim 17 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) and further in view of Barnas (US Patent 6,642,838). Claim 18 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Wilkinson (US Patent 5,892,447) and further in view of Barnas (US Patent 6,642,838). Claims 19-25 and 28 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Monroe et al. (US Patent 4,882,564). Claims 26 and 27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent

6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Monroe et al. (US Patent 4,882,564) and further in view of Barnas (US Patent 6,642,838). Claims 32, 33, 35, and 36 stand rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Monroe et al. (US Patent 4,882,564) and further in view of Ford (US Patent 6,756,896). Claim 34 stands rejected under 35 U.S.C. §103(a) as being unpatentable over McCarthy et al. (US Patent 6,768,420) in view of Chuang (US Patent 5,054,686) in further view of Monroe et al. (US Patent 4,882,564) and further in view of Ford (US Patent 6,756,896) and further in view of Barnas (US Patent 6,642,838).

All of the outstanding claim rejections rely on McCarthy in view of Chuang either as an exclusive combination (with respect to pending claims 1-6, 8, and 11) or as primary references of a combination (remainder of pending claims) to reject the outstanding claims as being obvious.

Regarding claim 1, McCarthy is cited as disclosing a vehicle compartment occupancy detection system comprised of a mammalian body motion detector sensing a confined space by an electric field sensor for detecting a person located inside a vehicle. The field sensor detects the presence of a person based on the movement made by that person breathing. Paper No. 20070330, section 2. Claim 1 recites that a mammalian body motion detector is an infrared sensor sensing a confined space. Claim 1 is exclusive in that the only sensor type in the instant claims to detect motion is an infrared sensor. No other sensor type for detection of motion is present in the recitation of claim 1. McCarthy is cited as not explicitly disclosing an infrared motion detector sensing a confined space. Chuang is cited as teaching an infrared detector to detect the presence of a living being in an automobile. The basis of the rejection is that using an infrared detector would provide the user with an alternative way to detect the presence of a living

being in the vehicle which would make the device a more robust method of mammalian presence detection.

Establishment of a *prima facie* case of obviousness requires three criteria that must be satisfied. First, there must be a suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine the reference teachings. Second, the combination of the references must lead to a reasonable expectation of success. Third, the prior art references must teach all claim limitations. McCarthy in view of Chuang does not teach or suggest an infrared sensor as an exclusive mammalian body motion detector. Indeed, McCarthy alone and in combination with Chuang teaches away from the instant invention. The teachings of Chuang and McCarthy do not provide a reasonable expectation of success when using an infrared sensor as a mammalian motion detector, and the use of an infrared detector is taught to be unsuitable for use in the invention of Warner.

Werner and Chuang teach away from an infrared sensor

Werner teaches away from the use of an infrared sensor as an exclusive means of detecting a mammal in a confined space. Similarly, no teaching of Chuang teaches that an infrared detector is successful in the detection of motion in a confined space. In determining obviousness "it is necessary to ascertain whether or not the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the reference before him to make the proposed substitution, combination, or other modification." *In re Linter*, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

Werner specifically teaches that an infrared detector cannot be used exclusively to detect motion in a confined space, thus, providing absolutely no motivation to use an infrared sensor

exclusively. This is evidenced at col. 1, lines 34-46 where Werner teaches that “infrared [sensors] fail to detect the presence of, for instance, a sleeping or moribund child.” Detecting of a sleeping child is essential to the function of the invention of Warner as evidenced by the introduction, background of the invention and description of the preferred embodiments. For example, Warner teaches that the invention is to detect “an entrapped person such as a sleeping child.” As Warner teaches that the infrared detector is incapable of detecting a sleeping child in a vehicle when used alone, the use of an infrared detector is unsuitable for use in the invention of Warner, and thus, Warner provides no motivation for the exclusive use of an infrared detector to detect a mammalian body in a combined space. The only motivation provided by Werner is to use an infrared detection system in conjunction with an EF system as an infrared system alone is incapable of success, and provides no reasonable expectation of success when using an infrared detection system in the absence of secondary motion detection systems.

Chuang does not correct the teaching away of Werner and, in fact, supports that an infrared detector cannot be used alone to detect motion in a confined space. Chuang teaches that “intruder detection may be accomplished by using one or more of the infrared and motion sensors which may include an interior infrared sensor for detecting the presence of a warm body in the car and an interior motion sensor for detecting the presence of a moving object in the car.” (col. 5, lines 36-41.) Thus, Chuang does not teach the use of an infrared sensor for the detection of motion in a vehicle. Additionally, Chuang only teaches that an infrared sensor is usable for the detection of gas. (col. 5, lines 57-58.) Finally, Chuang teaches that a living being may be detected in a vehicle by an “infrared detector or a motion sensor such as a mercury switch, a microwave sensor, or a photoelectric device.” (col. 2, lines 39-42.) (emphasis added) Thus, in all instances Chuang teaches that an infrared detector is not suitable for detecting motion but is

only suitable for detecting heat of an object. Chuang does not even teach that an infrared detector is suitable for detecting motion in a confined space, teaching that motion detection is accomplished by other sensor types such as “a mercury switch, a microwave sensor, or a photoelectric device.” *Id.* Therefore, similar to Werner, Chuang also does not provide any motivation for use of an infrared detector to detect motion in a confined space. The motivation to make a claimed combination and the reasonable expectation of success must both be found in the prior art, not in the applicant’s disclosure. *In re Vaeck*, 947 F.2d 488 (Fed. Cir. 1991). Given that neither Warner nor Chuang provide any motivation for the use of an infrared detector to detect a mammalian body motion, these references are not suitable for combination in the establishment of a *prima facie* case of obviousness under 35 U.S.C. §103(a).

In sum, Werner teaches away from the exclusive use of an infrared sensor and Chuang does not teach using an infrared detector for detecting motion. Werner teaches away from the invention of instant claim 1 in the material respect that an infrared detector is used exclusively in claim 1, whereas Werner teaches that an infrared detector is incapable of success when used in the absence of other motion detecting systems. As such, a *prima facie* case of obviousness is rebutted.

No Reasonable Expectation of Success

Neither Warner nor Chuang provide a reasonable expectation of success when using an infrared detector to detect a mammalian body motion in a confined space. Chuang’s teaching is limited to an infrared detector detecting heat emitted from an object within a confined space, not to detecting motion by the use of an infrared detector. Warner teaches that the use of an infrared detector to detect motion is fraught with problems, and such systems may fail to detect the presence of a sleeping or moribund child. As the teaching of Warner et al. suggests, the

knowledge of one of ordinary skill in the art concludes that use of an infrared detector to detect body motion will not be successful. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990). As neither Warner nor Chuang suggest the desirability of using an infrared detector to detect motion, these references do not suggest the desirability of the combination. The mere fact that Warner and Chuang can be combined does not render the resultant combination obvious. Thus, the use of an infrared detector to detect the motion of a mammalian body in a confined space is proceeding contrary to accepted wisdom, and proceeding contrary to accepted wisdom is evidence of nonobvious. *In re Hedges*, 783 F.2d 1038 (Fed. Cir. 1986).

Furthermore, “known disadvantages in old devices which would naturally discourage a search for new inventions may be taken into account in determining obviousness.” *U.S. v. Adams*, 383 U.S. 39, 52 (1966). As Warner makes clear to an ordinary practitioner in the art, the use of an infrared detector to detect a living being in a confined space has the known disadvantage of being unable to detect a child or a sleeping child. This known disadvantage of an infrared detector would naturally discourage the search for infrared detectors suitable for use as a motion detector in the detection of a mammalian body. Neither Warner nor Chuang provides any motivation to combine the references of Warner and Chuang, and a *prima facie* case of obviousness on these references has not been established.

All Claim Limitations Must Be Taught or Suggested

Establishment of a *prima facie* case of the obviousness of a claimed invention requires that all claim limitations are taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). “All words in a claim must be considered in judging the patentability

of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). Neither Warner nor Chuang teach or suggest use of an infrared sensor as a mammalian body motion detector in a confined space in the absence of other motion detection systems. Independent claim 1 currently requires that an infrared detector be used exclusively for detecting body motion of a mammal in a confined space. Warner teaches that the use of an infrared detector is unsuitable for detection of small children, sleeping or otherwise. Chuang et al. teaches that the use of an infrared detector is only suitable for detection of heat, not detection of motion. Chuang specifically sequesters the use of an infrared detector for the exclusive detection of heat and teaches other types of detectors for the detection of motion. For example, col. 2, lines 39-48 states that “[t]he living being detection may be accomplished with an infrared detector or a motion sensor such as a mercury switch, a microwave sensor or a photoelectric device.” (emphasis added) Thus, Chuang does not teach the use of an infrared detector for the detection of motion. As all words in a claim must be analyzed, independent claim 1 requires that an infrared sensor be used for the detection of mammalian body motion. Detection of motion is not taught to be suitable for the invention of Warner nor taught by the invention of Chuang. Thus, not all claim limitations are taught or suggested by the prior art.

In light of the above remarks that Werner teaches away from the claimed invention, neither Werner nor Chuang provide any motivation to use an infrared detector as an exclusive means for detecting motion, the references do not provide a reasonable expectation of success, and that all elements of instant claims 1, 19, and 32 are not taught by the prior art, a *prima facie* case of obviousness is respectfully rebutted.

The above cited shortfalls of Werner and Chuang are not corrected by Ford, Wilkinson, Brinkmeyer, Barnas, or Monroe. If an independent claim is nonobvious under 35 U.S.C. §103,

then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Claims 1, 19, and 32 are nonobvious, thus, claims 2-8, 11, 14-18, 20-28, and 33-36 are similarly nonobvious. As such, withdrawal of the rejection of claims 1-8, 11, 14-28, and 32-36 under 35 U.S.C. §103(a) is respectfully requested.

Summary

Claims 1-8, 11, 14-28, and 32-36 are currently pending in this application. Applicant submits that claims 1-8, 11, 14-28, and 32-36 are in allowable form and directed to patentable subject matter. Reconsideration and allowance of the pending claims is solicited. Should the Examiner have any suggestions as to how to improve the form of the pending claims, he is respectfully requested to contact the undersigned attorney in charge of this application.

Dated: 7/20/07

Respectfully submitted,

By

Avery N. Goldstein
Avery N. Goldstein, Ph.D.

Registration No.: 39,204

GIFFORD, KRASS, SPRINKLE, ANDERSON
& CITKOWSKI, P.C.

2701 Troy Center Drive, Suite 330

Post Office Box 7021

Troy, Michigan 48007-7021

(248) 647-6000

(248) 647-5210 (Fax)

Attorney for Applicant